

THE ASTROPHYSICAL JOURNAL  
CONTENTS OF VOLUME 667, PART 1

2007 SEPTEMBER 20, NUMBER 1

	Page
MEASURING DARK ENERGY WITH GAMMA-RAY BURSTS AND OTHER COSMOLOGICAL PROBES <i>F. Y. Wang, Z. G. Dai, &amp; Zong-Hong Zhu</i>	1
DETERMINATION OF THE FAR-INFRARED COSMIC BACKGROUND USING COBE DIRBE AND WHAM DATA <i>N. Odegard, R. G. Arendt, E. Dwek, L. M. Haffner, M. G. Hauser, &amp; R. J. Reynolds</i>	11
CALIBRATION OF THE MASS-TEMPERATURE RELATION FOR CLUSTERS OF GALAXIES USING WEAK GRAVITATIONAL LENSING <i>Kristian Pedersen &amp; Håkon Dahle</i>	26
SEMIEMPIRICAL CEPHEID PERIOD-LUMINOSITY RELATIONS IN SLOAN MAGNITUDES <i>C. Ngeow &amp; S. M. Kanbur</i>	35
DISTRIBUTION OF THE VERY FIRST POPULATION III STARS AND THEIR RELATION TO BRIGHT $z \approx 6$ QUASARS <i>M. Trenti &amp; M. Stiavelli</i>	38
OPTICAL-TO-MID-INFRARED OBSERVATIONS OF Ly $\alpha$ GALAXIES AT $z \approx 5$ IN THE HUBBLE ULTRA DEEP FIELD: A YOUNG AND LOW-MASS POPULATION <i>N. Pirzkal, S. Malhotra, J. E. Rhoads, &amp; C. Xu</i>	49
PHOTOMETRIC PROPERTIES OF THE MOST MASSIVE HIGH-REDSHIFT GALAXIES <i>Brant Robertson, Yuxing Li, Thomas J. Cox, Lars Hernquist, &amp; Philip F. Hopkins</i>	60
Ly $\alpha$ EMISSION-LINE GALAXIES AT $z = 3.1$ IN THE EXTENDED CHANDRA DEEP FIELD-SOUTH <i>Caryl Gronwall, Robin Ciardullo, Thomas Hickey, Eric Gawiser, John J. Feldmeier, Pieter G. van Dokkum, C. Megan Urry, David Herrera, Bret D. Lehmer, Leopoldo Infante, Alvaro Orsi, Danilo Marchesini, Guillermo A. Blanc, Harold Francke, Paulina Lira, &amp; Ezequiel Treister</i>	79
A FEEDBACK COMPRESSION STAR FORMATION MODEL AND THE BLACK HOLE-BULGE RELATIONS <i>Bing-Xiao Xu &amp; Xue-Bing Wu</i>	92
BLACK HOLE MASSES AND EDDINGTON RATIOS OF AGNs AT $z < 1$ : EVIDENCE OF RETRIGGERING FOR A REPRESENTATIVE SAMPLE OF X-RAY-SELECTED AGNs <i>L. Ballo, S. Cristiani, G. Fasano, F. Fontanot, P. Monaco, M. Nonino, E. Pignatelli, P. Tozzi, E. Vanzella, A. Fontana, E. Giavalisco, A. Grazian, &amp; L. Danese</i>	97
COSMIC EVOLUTION OF BLACK HOLES AND SPHEROIDS. II. SCALING RELATIONS AT $z = 0.36$ <i>Tommaso Treu, Jong-Hak Woo, Matthew A. Malkan, &amp; Roger D. Blandford</i>	117
THE MASS FUNCTION OF ACTIVE BLACK HOLES IN THE LOCAL UNIVERSE <i>Jenny E. Greene &amp; Luis C. Ho</i>	131
HIGH-RESOLUTION MID-INFRARED SPECTROSCOPY OF ULTRALUMINOUS INFRARED GALAXIES <i>D. Farrah, J. Bernard-Salas, H. W. W. Spoon, B. T. Soifer, L. Armus, B. Brandl, V. Charmandaris, V. Desai, S. Higdon, D. Devost, &amp; J. Houck</i>	149
BREATHING IN LOW-MASS GALAXIES: A STUDY OF EPISODIC STAR FORMATION <i>G. S. Stinson, J. J. Dalcanton, T. Quinn, T. Kaufmann, &amp; J. Wadsley</i>	170
THE SLOAN LENS ACS SURVEY. IV. THE MASS DENSITY PROFILE OF EARLY-TYPE GALAXIES OUT TO 100 EFFECTIVE RADII <i>Raphaël Gavazzi, Tommaso Treu, Jason D. Rhodes, Léon V. E. Koopmans, Adam S. Bolton, Scott Burles, Richard J. Massey, &amp; Leonidas A. Moustakas</i>	176
SELF-CONSISTENT MASSIVE DISKS IN TRIAXIAL DARK MATTER HALOS <i>Jeremy Bailin, Joshua D. Simon, Alberto D. Bolatto, Brad K. Gibson, &amp; Chris Power</i>	191
LATE-TYPE RED SUPERGIANTS: TOO COOL FOR THE MAGELLANIC CLOUDS? <i>Emily M. Levesque, Philip Massey, K. A. G. Olsen, &amp; Bertrand Plez</i>	202
THE NATURE OF THE GOULD BELT FROM A FRACTAL ANALYSIS OF ITS STELLAR POPULATION <i>Néstor Sánchez, Emilio J. Alfaro, Federico Elias, Antonio J. Delgado, &amp; Jesús Cabrera-Caño</i>	213

## CONTENTS

	Page
OBSERVATIONS OF X-RAYS AND THERMAL DUST EMISSION FROM THE SUPERNOVA REMNANT KES 75 <i>Timothy D. Morton, Patrick Slane, Kazimierz J. Borkowski, Stephen P. Reynolds, David J. Helfand, B. M. Gaensler, &amp; John P. Hughes</i>	219
THE EVOLUTION OF SUPERNOVAE IN CIRCUMSTELLAR WIND BUBBLES. II. CASE OF A WOLF-RAYET STAR <i>Vikram V. Dwarkadas</i>	226
REVEALING THE GALACTIC H II REGION G84.9+0.5 THROUGH 5 GHz CONTINUUM AND POLARIZATION EMISSION AND A VOIGT PROFILE ANALYSIS OF RADIO RECOMBINATION LINE OBSERVATIONS <i>T. J. Foster, R. Kothes, C. R. Kerton, &amp; K. Arvidsson</i>	248
MULTI-IONIC KINEMATICAL STUDY OF THE H II REGION SHARPLESS 2-158 <i>Léo Bariault &amp; Gilles Joncas</i>	257
PHOTOIONIZATION RATES IN CLUMPY MOLECULAR CLOUDS <i>T. J. Bethell, E. G. Zweibel, &amp; Pak Shing Li</i>	275
THE SPITZER c2d SURVEY OF LARGE, NEARBY, INTERSTELLAR CLOUDS. IV. LUPUS OBSERVED WITH MIPS <i>Nicholas L. Chapman, Shih-Ping Lai, Lee G. Mundy, Neal J. Evans II, Timothy Y. Brooke, Lucas A. Cieza, William J. Spiesman, Luisa M. Rebull, Karl R. Stapelfeldt, Alberto Noriega-Crespo, Lauranne Lanz, Lori E. Allen, Geoffrey A. Blake, Tyler L. Bourke, Paul M. Harvey, Tracy L. Huard, Jes K. Jorgensen, David W. Koerner, Philip C. Myers, Deborah L. Padgett, Annelia I. Sargent, Peter Teuben, Ewine F. van Dishoeck, Zahed Wahhaj, &amp; Kaisa E. Young</i>	288
DETECTION OF WATER ICE IN EDGE-ON PROTOPLANETARY DISKS: HK TAURI B AND HV TAURI C <i>Hiroshi Terada, Alan T. Tokunaga, Naoto Kobayashi, Naruhisa Takato, Yutaka Hayano, &amp; Hideki Takami</i>	303
THE SPITZER c2d SURVEY OF WEAK-LINE T TAURI STARS. II. NEW CONSTRAINTS ON THE TIMESCALE FOR PLANET BUILDING © <i>Lucas Cieza, Deborah L. Padgett, Karl R. Stapelfeldt, Jean-Charles Augereau, Paul Harvey, Neal J. Evans, II, Bruno Merin, David Koerner, Anneila Sargent, Ewine F. van Dishoeck, Lori Allen, Geoffrey Blake, Timothy Brooke, Nicholas Chapman, Tracy Huard, Shih-Ping Lai, Lee Mundy, Philip C. Myers, William Spiesman, &amp; Zahed Wahhaj</i>	308
THE DETECTION AND CHARACTERIZATION OF CENTIMETER RADIO CONTINUUM EMISSION FROM THE LOW-MASS PROTOSTAR L1014-IRS <i>Yancy L. Shirley, Mark J. Claussen, Tyler L. Bourke, Chadwick H. Young, &amp; Geoffrey A. Blake</i>	329
A THREE-STAGE MODEL FOR THE INNER ENGINE OF GAMMA-RAY BURSTS: PROMPT EMISSION AND EARLY AFTERGLOW <i>Jan Staff, Rachid Ouyed, &amp; Manjari Bagchi</i>	340
GRB 060218: A RELATIVISTIC SUPERNOVA SHOCK BREAKOUT © <i>E. Waxman, P. Mészáros, &amp; S. Campana</i>	351
MAGIC UPPER LIMITS ON THE VERY HIGH ENERGY EMISSION FROM GAMMA-RAY BURSTS © <i>J. Albert, E. Aliu, H. Anderhub, P. Antonanz, A. Armada, C. Baixeras, J. A. Barrio, H. Bartko, D. Bastieri, J. Becker, W. Bednarek, K. Berger, C. Bigongiari, A. Biland, R. K. Bock, P. Bordas, V. Bosch-Ramon, T. Bretz, I. Britvitch, M. Camara, E. Carmona, A. Chilingarian, S. Ciprini, J. A. Coarasa, S. Commichau, J. L. Contreras, J. Cortina, M. T. Costado, V. Curtef, V. Danielyan, F. Dazzi, A. De Angelis, C. Delgado, R. de los Reyes, B. De Lotto, E. Domingo-Santamaría, D. Dorner, M. Doro, M. Errando, M. Fagioli, D. Ferenc, E. Fernández, R. Firpo, J. Fliz, M. V. Fonseca, L. Font, M. Fuchs, N. Galante, R. García-López, M. Garczarczyk, M. Gaug, M. Giller, F. Goebel, D. Hakobyan, M. Hayashida, T. Hengstebeck, A. Herrera, D. Höhne, J. Hose, C. C. Hsu, P. Jacon, T. Jogler, O. Kalekin, R. Kosyra, D. Kranich, R. Kritzer, A. Laille, T. Lenisa, P. Liebing, E. Lindfors, S. Lombardi, F. Longo, J. López, M. López, E. Lorenz, P. Majumdar, G. Manera, K. Mannheim, O. Mansutti, M. Mariotti, M. Martínez, D. Mazin, C. Merck, M. Meucci, M. Meyer, J. M. Miranda, R. Mirzoyan, S. Mizobuchi, A. Moralejo, K. Nilsson, J. Ninkovic, E. Oña-Wilhelmi, N. Otte, I. Oya, D. Panueque, M. Panniello, R. Paoletti, J. M. Paredes, M. Pasanen, D. Pascoli, F. Pauss, R. Pegna, M. Persic, L. Peruzzo, A. Piccioli, M. Poller, E. Prandini, N. Puchades, A. Raymers, W. Rhode, M. Ribó, J. Rico, M. Rissi, A. Robert, S. Rügamer, A. Saggin, A. Sánchez, P. Sartori, V. Scalzotto, V. Scapin, R. Schmitt, T. Schweizer, M. Shayduk, K. Shinohaki, S. N. Shore, N. Sidro, A. Sillanpää, D. Sobczynska, A. Stamerla, L. S. Stark, L. Takalo, P. Temnikov, D. Tescaro, M. Teshima, N. Tonello, D. F. Torres, N. Turini, H. Vankov, V. Vitale, R. M. Wagner, T. Wibig, W. Wittek, R. Zanin, &amp; J. Zapatero</i>	358
GENERALIZED PSEUDO-NEWTONIAN POTENTIAL FOR STUDYING ACCRETION DISK DYNAMICS IN OFF-EQUATORIAL PLANES AROUND ROTATING BLACK HOLES: DESCRIPTION OF A VECTOR POTENTIAL <i>Shubhrangshu Ghosh &amp; Banibrata Mukhopadhyay</i>	367
INELASTIC NEUTRINO-HELIUM SCATTERINGS AND STANDING ACCRETION SHOCK INSTABILITY IN CORE-COLLAPSE SUPERNOVAE <i>Naofumi Ohnishi, Kei Kotake, &amp; Shoichi Yamada</i>	375
DYNAMICS AND NEUTRINO SIGNAL OF BLACK HOLE FORMATION IN NONROTATING FAILED SUPERNOVAE. I. EQUATION OF STATE DEPENDENCE <i>K. Sumiyoshi, S. Yamada, &amp; H. Suzuki</i>	382
X-RAY SPECTRAL SIGNATURES OF THE PHOTON BUBBLE MODEL FOR ULTRALUMINOUS X-RAY SOURCES © <i>Justin D. Finke &amp; Markus Böttcher</i>	395
CORRELATIONS BETWEEN X-RAY SPECTRAL AND TIMING CHARACTERISTICS IN CYGNUS X-2 <i>Lev Titarchuk, Sergey Kuznetsov, &amp; Nickolai Shaposhnikov</i>	404
BROADBAND SPECTRAL EVOLUTION OF SCORPIUS X-1 ALONG ITS COLOR-COLOR DIAGRAM © <i>A. D'Ai, P. Życki, T. Di Salvo, R. Iaria, G. Lavagetto, &amp; N. R. Robba</i>	411

## CONTENTS

	Page
THE SPECTRUM OF THE BLACK HOLE X-RAY NOVA V404 CYgni IN QUIESCEENCE AS MEASURED BY <i>XMM-Newton</i> © <i>Charles K. Bradley, Robert I. Hynes, Albert K. H. Kong, C. A. Haswell, J. Casares, &amp; E. Gallo</i>	427
DISCOVERY OF TWO NEW ACCRETING PULSATING WHITE DWARF STARS <i>Anjum S. Mukadam, B. T. Gänsicke, P. Szkody, A. Aungwerojwit, Steve B. Howell, O. J. Fraser, &amp; N. M. Silvestri</i>	433
DYNAMICAL CONSTRAINTS ON THE COMPONENT MASSES OF THE CATACLYSMIC VARIABLE WZ SAGITTAE <i>Danny Steeghs, Steve B. Howell, Christian Knigge, Boris T. Gänsicke, Edward M. Sion, &amp; William F. Welsh</i>	442
TURBULENT CONVECTION IN STELLAR INTERIORS. I. HYDRODYNAMIC SIMULATION <i>Casey A. Meakin &amp; David Arnett</i>	448
THE QSE-REDUCED NUCLEAR REACTION NETWORK FOR SILICON BURNING © <i>W. Raphael Hix, Suzanne T. Parete-Koon, Christian Freiburghaus, &amp; Friedrich-Karl Thielemann</i>	476
MOLECULAR OPACITIES FOR LOW-MASS METAL-POOR AGB STARS UNDERGOING THE THIRD DREDGE-UP <i>S. Cristallo, O. Straniero, M. T. Lederer, &amp; B. Aringer</i>	489
TOWARD UNDERSTANDING THE B[e] PHENOMENON. I. DEFINITION OF THE GALACTIC FS CMa STARS <i>A. S. Miroshnichenko</i>	497
A SPECTROSCOPIC STUDY OF MASS OUTFLOWS IN THE INTERACTING BINARY RY SCUTI <i>Erika D. Grundstrom, Douglas R. Gies, Todd C. Hillwig, M. Virginia McSwain, Nathan Smith, Robert D. Gehrz, Otmar Stahl, &amp; Andreas Kaufer</i>	505
SOUTHERN VERY LOW MASS STARS AND BROWN DWARFS IN WIDE BINARY AND MULTIPLE SYSTEMS © <i>José Antonio Caballero</i>	520
FAR-INFRARED PROPERTIES OF M DWARFS <i>Thomas N. Gautier III, G. H. Rieke, John Stansberry, Geoffrey C. Bryden, Karl R. Stapelfeldt, Michael W. Werner, Charles A. Beichman, Christine Chen, Kate Su, David Trilling, Brian M. Patten, &amp; Thomas L. Roellig</i>	527
PHYSICAL AND SPECTRAL CHARACTERISTICS OF THE T8 AND LATER TYPE DWARFS <i>S. K. Leggett, M. S. Marley, R. Freedman, D. Saumon, Michael C. Liu, T. R. Geballe, D. A. Golimowski, &amp; D. C. Stephens</i>	537
A DETERMINATION OF THE SPIN-ORBIT ALIGNMENT OF THE ANOMALOUSLY DENSE PLANET ORBITING HD 149026 <i>Aaron S. Wolf, Gregory Laughlin, Gregory W. Henry, Debra A. Fischer, Geoff Marcy, Paul Butler, &amp; Steve Vogt</i>	549
A SYSTEMATIC STUDY OF THE FINAL MASSES OF GAS GIANT PLANETS <i>Takayuki Tanigawa &amp; Masahiro Ikoma</i>	557
DIVERGENCE AND VORTICITY OF SOLAR SUBSURFACE FLOWS DERIVED FROM RING-DIAGRAM ANALYSIS OF MDI AND GONG DATA <i>R. Komm, R. Howe, F. Hill, M. Miesch, D. Haber, &amp; B. Hindman</i>	571
MAGNETIC FLUX IN THE SOLAR CONVECTIVE ENVELOPE INFERRED FROM INITIAL OBSERVATIONS OF SUNSPOTS © <i>K. M. Hiremath &amp; M. R. Lovely</i>	585
THE CROSS-FIELD THERMAL STRUCTURE OF CORONAL LOOPS FROM TRIPLE-FILTER TRACE OBSERVATIONS <i>S. Patsourakos &amp; J. A. Klimchuk</i>	591
ION CHARGE STATES IN HALO CORONAL MASS EJECTIONS: WHAT CAN WE LEARN ABOUT THE EXPLOSION? <i>Cara E. Rakowski, J. Martin Laming, &amp; Susan T. Lepri</i>	602
ON THE EVOLUTION OF CORONAL MASS EJECTIONS IN THE INTERPLANETARY MEDIUM <i>T. A. Howard, C. D. Fry, J. C. Johnston, &amp; D. F. Webb</i>	610
EQUATIONS AND ALGORITHMS FOR MIXED-FRAME FLUX-LIMITED DIFFUSION RADIATION HYDRODYNAMICS <i>Mark R. Krumholz, Richard I. Klein, Christopher F. McKee, &amp; John Bolstad</i>	626
ERRATUM: "MID-IR OBSERVATIONS AND A REVISED TIME DELAY FOR THE GRAVITATIONAL LENS SYSTEM QUASAR HE 1104-1805" (ApJ, 660, 146 [2007]) <i>Shawn Poindexter, Nicholas Morgan, Christopher S. Kochanek, &amp; Emilio E. Falco</i>	644

2007 OCTOBER 1, NUMBER 2

RADIAL DENSITY PROFILES OF TIME-DELAY LENSING GALAXIES © <i>J. I. Read, P. Saha, &amp; A. V. Maccio</i>	645
THE ROLE OF THE DUST IN PRIMEVAL GALAXIES: A SIMPLE PHYSICAL MODEL FOR LYMAN BREAK GALAXIES AND Lyα EMITTERS <i>J. Mao, A. Lapi, G. L. Granato, G. de Zotti, &amp; L. Danese</i>	655
HIGH-RESOLUTION SUBMILLIMETER IMAGING OF THE Lyα BLOB 1 IN SSA 22 © <i>Y. Matsuda, D. Iono, K. Ohta, T. Yamada, R. Kawabe, T. Hayashino, A. B. Peck, &amp; G. R. Petitpas</i>	667

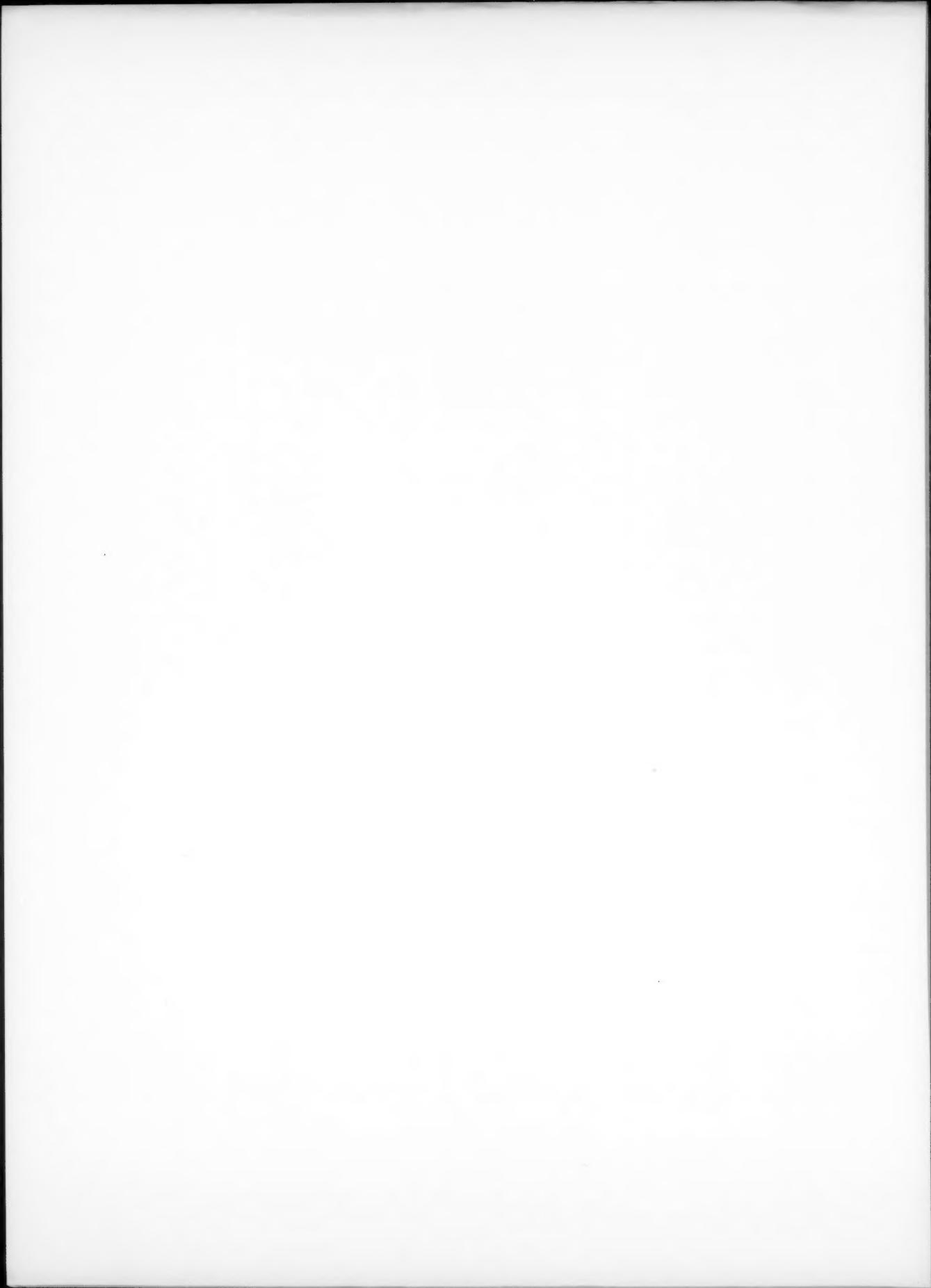
## CONTENTS

	<i>Page</i>
THE FIRST-2MASS RED QUASAR SURVEY © <i>Eilat Glikman, David J. Helfand, Richard L. White, Robert H. Becker, Michael D. Gregg, &amp; Mark Lacy</i>	673
BLACK HOLE SPIN AND GALACTIC MORPHOLOGY <i>Marta Volonteri, Marek Sikora, &amp; Jean-Pierre Lasota</i>	704
ELECTRON HEATING IN HOT ACCRETION FLOWS <i>Prateek Sharma, Eliot Quataert, Gregory W. Hammett, &amp; James M. Stone</i>	714
THE LORENTZ FACTOR DISTRIBUTION AND LUMINOSITY FUNCTION OF RELATIVISTIC JETS IN AGNs <i>Yuan Liu &amp; Shuang Nan Zhang</i>	724
A DEEP <i>CHANDRA</i> LOOK AT THE LOW- $L_B$ ELLIPTICAL NGC 821: X-RAY BINARIES, A GALACTIC WIND, AND EMISSION AT THE NUCLEUS © <i>S. Pellegrini, A. Baldi, D. W. Kim, G. Fabbiano, R. Soria, A. Siemiginowska, &amp; M. Elvis</i>	731
A DEEP <i>CHANDRA</i> , VERY LARGE ARRAY, AND <i>SPITZER</i> INFRARED ARRAY CAMERA STUDY OF THE VERY LOW LUMINOSITY NUCLEUS OF THE ELLIPTICAL NGC 821 © <i>S. Pellegrini, A. Siemiginowska, G. Fabbiano, M. Elvis, L. Greenhill, R. Soria, A. Baldi, &amp; D. W. Kim</i>	749
GALAXY EVOLUTION FROM HALO OCCUPATION DISTRIBUTION MODELING OF DEEP2 AND SDSS GALAXY CLUSTERING © <i>Zheng Zheng, Alison L. Coil, &amp; Idit Zehavi</i>	760
BULGES AND DISKLIKE COMPONENTS IN THE HOST GALAXIES OF LOW-REDSHIFT 3CR SOURCES: A NEAR-INFRARED VIEW OF THEIR RADIAL BRIGHTNESS PROFILES <i>Carlos J. Donzelli, Marco Chiaberge, F. Duccio Macchetto, Juan P. Madrid, Alessandro Capetti, &amp; Danilo Marchesini</i>	780
THE MOST MASSIVE BLACK HOLES IN THE UNIVERSE: EFFECTS OF MERGERS IN MASSIVE GALAXY CLUSTERS <i>Jaiyul Yoo, Jordi Miralda-Escudé, David H. Weinberg, Zheng Zheng, &amp; Christopher W. Morgan</i>	813
X-RAY LUMINOSITY FUNCTIONS OF NORMAL GALAXIES IN THE GREAT OBSERVATORIES ORIGINS DEEP SURVEY © <i>Andrew Ptak, Bahram Mobasher, Ann Hornschemeier, Franz Bauer, &amp; Colin Norman</i>	826
FORMATION AND EVOLUTION OF GALAXY DARK MATTER HALOS AND THEIR SUBSTRUCTURE © <i>Jürg Diemand, Michael Kuhlen, &amp; Piero Madau</i>	859
MASSES, TIDAL RADII, AND ESCAPE SPEEDS IN DWARF SPHEROIDAL GALAXIES UNDER MOND AND DARK HALOS COMPARED © <i>F. J. Sánchez-Salcedo &amp; X. Hernandez</i>	878
A <i>SPITZER</i> IRAC CENSUS OF THE ASYMPTOTIC GIANT BRANCH POPULATIONS IN LOCAL GROUP DWARFS. II. IC 1613 <i>Dale C. Jackson, Evan D. Skillman, Robert D. Gehrz, Elisha Polomski, &amp; Charles E. Woodward</i>	891
A CONSTANT SPECTRAL INDEX FOR SAGITTARIUS A* DURING INFRARED/X-RAY INTENSITY VARIATIONS <i>S. D. Hornstein, K. Matthews, A. M. Ghez, J. R. Lu, M. Morris, E. E. Becklin, M. Rafelski, &amp; F. K. Baganoff</i>	900
ABUNDANCES ON THE MAIN SEQUENCE OF $\omega$ CENTAURI © <i>Laura M. Staniford, G. S. Da Costa, John E. Norris, &amp; Russell D. Cannon</i>	911
NONLINEAR COSMIC-RAY DIFFUSIVE TRANSPORT IN COMBINED TWO-DIMENSIONAL AND SLAB MAGNETOHYDRODYNAMIC TURBULENCE: A BGK-BOLTZMANN APPROACH <i>J. A. le Roux &amp; G. M. Webb</i>	930
SPECTRAL PROPERTIES AND LENGTH SCALES OF TWO-DIMENSIONAL MAGNETIC FIELD MODELS <i>W. H. Matthaeus, J. W. Bieber, D. Ruffolo, P. Chuaychai, &amp; J. Minnie</i>	956
NEAR-INFRARED STUDY OF THE CARINA NEBULA © <i>Kaushal Sanchawala, Wen-Ping Chen, Devendra Ojha, Swarna Kanti Ghosh, Yasushi Nakajima, Motohide Tamura, Daisuke Baba, Shuji Sato, &amp; Masahiro Tsujimoto</i>	963
THE EXCITATION OF $N_2H^+$ IN INTERSTELLAR MOLECULAR CLOUDS. II. OBSERVATIONS © <i>F. Daniel, J. Cernicharo, E. Roueff, M. Gerin, &amp; M. L. Dubernet</i>	980
HUBBLE SPACE TELESCOPE SURVEY OF INTERSTELLAR $^{12}\text{CO}/^{13}\text{CO}$ IN THE SOLAR NEIGHBORHOOD <i>Y. Sheffer, M. Rogers, S. R. Federman, D. L. Lambert, &amp; R. Grede</i>	1002
STATISTICAL EVIDENCE FOR THREE CLASSES OF GAMMA-RAY BURSTS © <i>Tanuka Chattopadhyay, Ranjeev Misra, Asis Kumar Chattopadhyay, &amp; Malay Naskar</i>	1017
PULSE WIDTH EVOLUTION OF LATE-TIME X-RAY FLARES IN GAMMA-RAY BURSTS © <i>Daniel Kocovský, Nathaniel Butler, &amp; Joshua S. Bloom</i>	1024
$\nu F_\nu$ SPECTRA OF INTENSE SHORT GAMMA-RAY BURSTS PEAK AT ABOUT 1 MeV <i>C. Barat &amp; J. P. Lestrade</i>	1033
A HARD-TO-SOFT STATE TRANSITION DURING A LUMINOSITY DECLINE OF AQUILA X-1 <i>Wenfei Yu &amp; Joshua Dolence</i>	1043

## CONTENTS

vii

	Page
MAPPING POPULATION SYNTHESIS EVENT RATES ON MODEL PARAMETERS. II. CONVERGENCE AND ACCURACY OF MULTIDIMENSIONAL FITS <i>R. O'Shaughnessy, V. Kalogera, &amp; K. Belczynski</i>	1048
THE DIFFUSE EMISSION OF NEUTRINOS FROM YOUNG PULSARS IN THE GALAXY <i>Z. J. Jiang, S. B. Chen, &amp; L. Zhang</i>	1059
FOURIER-RESOLVED SPECTROSCOPY OF 4U 1728-34: NEW INSIGHTS INTO SPECTRAL AND TEMPORAL PROPERTIES OF LOW-MASS X-RAY BINARIES © <i>C. R. Shrader, P. Reig, &amp; D. Kazanas</i>	1063
EVALUATING SPECTRAL MODELS AND THE X-RAY STATES OF NEUTRON STAR X-RAY TRANSIENTS <i>Dacheng Lin, Ronald A. Remillard, &amp; Jeroen Homan</i>	1073
FUSE OBSERVATIONS OF A FULL ORBIT OF HERCULES X-1: SIGNATURES OF DISK, STAR, AND WIND <i>Bram S. Boroson, Saeqa Dil Vrtilek, John C. Raymond, &amp; Martin Still</i>	1087
THE COMPACT X-RAY SOURCE IE 1547.0-5408 AND THE RADIO SHELL G327.24-0.13: A NEW PROPOSED ASSOCIATION BETWEEN A CANDIDATE MAGNETAR AND A CANDIDATE SUPERNOVA REMNANT <i>Joseph D. Gelfand &amp; B. M. Gaensler</i>	1111
HYDROGEN PHOTOIONIZATION CROSS SECTIONS FOR STRONG-FIELD MAGNETIC WHITE DWARFS © <i>L. B. Zhao &amp; P. C. Stancil</i>	1119
A COMPARATIVE STUDY OF OPTICAL AND ULTRAVIOLET EFFECTIVE TEMPERATURES FOR DA WHITE DWARFS FROM THE IUE ARCHIVE © <i>C.-P. Lajoie &amp; P. Bergeron</i>	1126
AN INTERNATIONAL ULTRAVIOLET EXPLORER ARCHIVAL STUDY OF DWARF NOVAE IN OUTBURST <i>Ryan T. Hamilton, Joel A. Urban, Edward M. Sion, Adric R. Riedel, Elysse N. Voyer, John T. Marcy, &amp; Sarah L. Lakatos</i>	1139
THE CEPHEID PHASE LAG REVISITED © <i>Róbert Szabó, J. Robert Buchler, &amp; Justin Bartee</i>	1150
A PARALLACTIC DISTANCE OF $389^{+24}_{-21}$ PARSECS TO THE ORION NEBULA CLUSTER FROM VERY LONG BASELINE ARRAY OBSERVATIONS <i>Karin M. Sandstrom, J. E. G. Peek, Geoffrey C. Bower, Alberto D. Bolatto, &amp; Richard L. Plambeck</i>	1161
INTERACTING BINARIES WITH ECCENTRIC ORBITS: SECULAR ORBITAL EVOLUTION DUE TO CONSERVATIVE MASS TRANSFER <i>J. F. Sepinsky, B. Willems, V. Kalogera, &amp; F. A. Rasio</i>	1170
CARBON AND STRONTIUM ABUNDANCES OF METAL-POOR STARS © <i>David K. Lai, Jennifer A. Johnson, Michael Bolte, &amp; Sara Lucatello</i>	1185
BERYLLIUM IN ULTRA-LITHIUM-DEFICIENT HALO STARS: THE BLUE STRAGGLER CONNECTION © <i>Ann Merchant Boesgaard</i>	1196
EVOLUTION OF LOW-MASS POPULATION III STARS <i>Takuma Suda, Masayuki Y. Fujimoto, &amp; Naoki Itoh</i>	1206
DISK-PLANET INTERACTION SIMULATIONS. I. BAROCLINIC GENERATION OF VORTENSITY AND NONAXISYMMETRIC ROSSBY WAVE INSTABILITY <i>Shangli Ou, Jianghui Ji, Lin Liu, &amp; Xiaomeng Peng</i>	1220
VELOCITY PROFILES IN THE SOLAR CORONA FROM MULTI-INSTRUMENT OBSERVATIONS <i>E. Quémérais, R. Lallement, D. Koutroumpa, &amp; P. Lamy</i>	1229
WAVE ENERGY DISSIPATION BY ANISOTROPIC VISCOSITY IN MAGNETIC X-POINTS <i>I. J. D. Craig &amp; Yuri E. Litvinenko</i>	1235
SEMIEMPIRICAL MODELS OF THE SOLAR ATMOSPHERE. II. THE QUIET-SUN LOW CHROMOSPHERE AT MODERATE RESOLUTION <i>J. M. Fontenla, K. S. Balasubramaniam, &amp; J. Harder</i>	1243
THE EMERGING FEATURES OF BIPOLAR MAGNETIC REGIONS DURING SOLAR MINIMA <i>Wenbin Song &amp; Xueshang Feng</i>	1258
ENCOUNTER OF THE ULYSSES SPACECRAFT WITH THE ION TAIL OF COMET McNAUGHT <i>M. Neugebauer, G. Gloeckler, J. T. Gosling, A. Rees, R. Skoug, B. E. Goldstein, T. P. Armstrong, M. R. Combi, T. Mäkinen, D. J. McComas, R. von Steiger, T. H. Zurbuchen, E. J. Smith, J. Geiss, &amp; L. J. Lanzerotti</i>	1262
IMPROVED LABORATORY TRANSITION PROBABILITIES FOR NEUTRAL CHROMIUM AND REDETERMINATION OF THE CHROMIUM ABUNDANCE FOR THE SUN AND THREE STARS © <i>Jennifer S. Sobeck, James E. Lawler, &amp; Christopher Sneden</i>	1267
REACTIONS OF H, N, AND O ATOMS WITH CARBON CHAIN ANIONS OF INTERSTELLAR INTEREST: AN EXPERIMENTAL STUDY <i>Brian Eichelberger, Theodore P. Snow, Cynthia Barckholtz, &amp; Veronica M. Bierbaum</i>	1283



THE ASTROPHYSICAL JOURNAL LETTERS

CONTENTS OF VOLUME 667, PART 2

2007 SEPTEMBER 20, NUMBER 1

	Page
ANGULAR ANISOTROPIES IN THE COSMIC GAMMA-RAY BACKGROUND AS A PROBE OF ITS ORIGIN <span style="font-size: small;">(E)</span> <i>Francesco Miniati, Savvas M. Koushiappas, and Tiziana Di Matteo</i>	L1
HEATING AND TURBULENCE DRIVING BY GALAXY MOTIONS IN GALAXY CLUSTERS <i>Woong-Tae Kim</i>	L5
THE FAR-INFRARED LUMINOSITY FUNCTION FROM GOODS-NORTH: CONSTRAINING THE EVOLUTION OF INFRARED GALAXIES FOR $z \leq 1$ <span style="font-size: small;">(E)</span> <i>Minh T. Huynh, David T. Frayer, Bahram Mobasher, Mark Dickinson, Ranga-Ram Chary, and Glenn Morrison</i>	L9
RADIO AGNs IN 13,240 GALAXY CLUSTERS FROM THE SLOAN DIGITAL SKY SURVEY <i>Steve Croft, Wim de Vries, and Robert H. Becker</i>	L13
DISCOVERY OF RADIO JETS IN $z \sim 2$ ULTRALUMINOUS INFRARED GALAXIES WITH DEEP 9.7 $\mu\text{m}$ SILICATE ABSORPTION <i>Anna Sajina, Lin Yan, Mark Lacy, and Minh Huynh</i>	L17
DISCOVERY OF VERY HIGH ENERGY $\gamma$ -RAYS FROM 1ES 1011+496 AT $z = 0.212$ <span style="font-size: small;">(E)</span> <i>J. Albert, E. Aliu, H. Anderhub, P. Antoranz, A. Armada, C. Baixeras, J. A. Barrio, H. Bartko, D. Bastieri, J. K. Becker, W. Bednarek, K. Berger, C. Bigongiari, A. Biland, R. K. Bock, P. Bordas, V. Bosch-Ramon, T. Breit, I. Britvitch, M. Camara, E. Carmona, A. Chilingarian, J. A. Coarasa, S. Commichau, J. L. Contreras, J. Cortina, M. T. Costado, V. Curtef, V. Danielyan, F. Dazzi, A. De Angelis, C. Delgado, R. de los Reyes, B. De Lotto, E. Domingo-Santamaría, D. Dorner, M. Doro, M. Errando, M. Fagioli, D. Ferenc, E. Fernández, R. Firpo, J. Flix, M. V. Fonseca, L. Font, M. Fuchs, N. Galante, R. J. García-López, M. Garczarczyk, M. Gaug, M. Giller, F. Goebel, D. Hakobyan, M. Hayashida, T. Hengstebeck, A. Herrero, D. Höhne, J. Hose, C. C. Hsu, P. Jacon, T. Jogler, R. Kosyra, D. Kranich, R. Krtizer, A. Laille, E. Lindfors, S. Lombardi, F. Longo, J. López, M. López, E. Lorenz, P. Majumdar, G. Maneva, K. Mannheim, O. Mansutti, M. Mariotti, M. Martínez, D. Mazin, C. Merck, M. Meucci, M. Meyer, J. M. Miranda, R. Mirzoyan, S. Mizobuchi, A. Moralejo, D. Nieto, K. Nilsson, J. Ninkovic, E. Oña-Wilhelmi, N. Otte, I. Oya, D. Panequie, M. Panniello, R. Paoletti, J. M. Paredes, M. Pasanen, D. Pascoli, F. Pauss, R. Pegna, E. Perlman, M. Persic, L. Peruzzo, A. Piccioli, E. Prandini, N. Puchades, A. Raymers, W. Rhode, M. Ribó, J. Rico, M. Rossi, A. Robert, S. Rügamer, A. Saggion, T. Saito, A. Sánchez, P. Sartori, V. Scalzotto, V. Scapin, R. Schmitt, T. Schweizer, M. Shayduk, K. Shinozaki, S. N. Shore, N. Sidro, A. Sillanpää, D. Sobczynska, A. Stammer, L. S. Stark, L. Takalo, F. Tavecchia, P. Temnikov, D. Tescaro, M. Teshima, D. F. Torres, N. Turini, H. Vankov, V. Vitale, R. M. Wagner, T. Wibig, W. Wittek, F. Zandanel, R. Zanin, and J. Zapatero</i>	L21
CHANDRA STACKING CONSTRAINTS ON THE CONTRIBUTION OF 24 $\mu\text{m}$ SPITZER SOURCES TO THE UNRESOLVED COSMIC X-RAY BACKGROUND <i>A. T. Steffen, W. N. Brandt, D. M. Alexander, S. C. Gallagher, and B. D. Lehmer</i>	L25
BLAZAR $\gamma$ -RAYS, SHOCK ACCELERATION, AND THE EXTRAGALACTIC BACKGROUND LIGHT <span style="font-size: small;">(E)</span> <i>Floyd W. Stecker, Matthew G. Baring, and Errol J. Summerlin</i>	L29
NARROW-LINE SEYFERT 1 GALAXIES AND THE $M_{\text{BH}}-\sigma$ RELATION <i>S. Komossa and D. Xu</i>	L33
PREDICTED AND OBSERVED EVOLUTION IN THE MEAN PROPERTIES OF TYPE Ia SUPERNOVAE WITH REDSHIFT <span style="font-size: small;">(E)</span> <i>D. Andrew Howell, Mark Sullivan, Alex Conley, and Ray Carlberg</i>	L37
TYPE Ia AND II SUPERNOVAE CONTRIBUTIONS TO METAL ENRICHMENT IN THE INTRACLUSTER MEDIUM OBSERVED WITH SUZAKU <i>Kosuke Sato, Kazuyo Tokoi, Kyoko Matsushita, Yoshitaka Ishisaki, Noriko Y. Yamasaki, Manabu Ishida, and Takaya Ohashi</i>	L41
MOND AND THE MASS DISCREPANCIES IN TIDAL DWARF GALAXIES <i>Mordehai Milgrom</i>	L45
STELLAR POPULATIONS ACROSS THE NGC 4244 TRUNCATED GALACTIC DISK <i>Roelof S. de Jong, A. C. Seth, D. J. Rauburn-Smith, E. F. Bell, T. M. Brown, J. S. Bullock, S. Courteau, J. J. Dalcanton, H. C. Ferguson, P. Goudfroot, S. Holtzman, B. W. Holwerda, C. Purcell, J. Sick, and D. B. Zucker</i>	L49
VELOCITY DISPERSION PROFILES OF SEVEN DWARF SPHEROIDAL GALAXIES <i>Matthew G. Walker, Mario Mateo, Edward W. Olszewski, Oleg Y. Gnedin, Xiao Wang, Bodhisattva Sen, and Michael Woodroofe</i>	L53
THE ACS SURVEY OF GALACTIC GLOBULAR CLUSTERS: M54 AND YOUNG POPULATIONS IN THE SAGITTARIUS DWARF SPHEROIDAL GALAXY <span style="font-size: small;">(E)</span> <i>Michael H. Siegel, Aaron Dotter, Steven R. Majewski, Ata Sarajedini, Brian Chaboyer, David L. Nidever, Jay Anderson, Antonio Marin-Franch, Alfred Rosenberg, Luigi R. Bedin, Antonio Aparicio, Ivan King, Giampaolo Piotto, and I. Neill Reid</i>	L57
ON THE REMOTE GALACTIC GLOBULAR CLUSTER NGC 2419 <i>Vincenzo Ripepi, Gisella Clementini, Marcella Di Criscienzo, Claudia Greco, Massimo Dall'Ora, Luciana Federici, Luca Di Fabrizio, Ilaria Musella, Marcella Marconi, Lara Baldacci, and Marcella Maio</i>	L61

## CONTENTS

DETECTION OF C <sub>6</sub> H <sup>+</sup> TOWARD THE LOW-MASS PROTOSTAR IRAS 04368+2557 IN L1527 <i>Nami Sakai, Takeshi Sakai, Yoshihiro Osamura, and Satoshi Yamamoto</i>	L65
PULSAR EMISSION AND FORCE-FREE ELECTRODYNAMICS <i>Andrei Gruzinov</i>	L69
THE MAGNETAR NATURE AND THE OUTBURST MECHANISM OF A TRANSIENT ANOMALOUS X-RAY PULSAR ⑤ <i>Tolga Güver, Feryal Özel, Ersin Göğüş, and Chryssa Kouveliotou</i>	L73
HUBBLE SPACE TELESCOPE MULTIEPOCH IMAGING OF THE PSR B0540-69 SYSTEM UNVEils A HIGHLY DYNAMIC SYNCHROTRON NEBULA <i>A. De Luca, R. P. Mignani, P. A. Caraveo, and G. F. Bignami</i>	L77
FLUORINE IN A CARBON-ENHANCED METAL-POOR STAR <i>Simon C. Schuler, Katia Cunha, Verne V. Smith, Thirupathi Sivarani, Timothy C. Beers, and Young Sun Lee</i>	L81
THE FIRST EMPIRICAL MASS-LOSS LAW FOR POPULATION II GIANTS <i>Livia Origlia, Robert T. Rood, Sara Fabbri, Francesco R. Ferraro, Flavio Fusi Pecci, and R. Michael Rich</i>	L85
SPECTROPOLARIMETRY OF THE H $\alpha$ LINE IN HERBIG Ae/Be STARS <i>D. M. Harrington and J. R. Kuhn</i>	L89
NONLOCAL PHENOMENOLOGY FOR ANISOTROPIC MAGNETOHYDRODYNAMIC TURBULENCE <i>A. Alexakis</i>	L93
AN ALTERNATIVE INTERPRETATION OF THE RELATIONSHIP BETWEEN THE INFERRRED OPEN SOLAR FLUX AND THE INTERPLANETARY MAGNETIC FIELD ⑤ <i>Pete Riley</i>	L97
SOLAR CYCLE VARIATION OF REAL CME LATITUDES <i>Wenbin Song, Xueshang Feng, and Yanqi Hu</i>	L101
MAGNETIC INTERACTION: AN ERUPTING FILAMENT AND A REMOTE CORONAL HOLE <i>Yunchun Jiang, Liheng Yang, Kejun Li, and Yuandeng Shen</i>	L105
NONTHERMAL VELOCITIES IN SOLAR ACTIVE REGIONS OBSERVED WITH THE EXTREME-ULTRAVIOLET IMAGING SPECTROMETER ON HINODE <i>G. A. Doschek, J. T. Mariska, H. P. Warren, C. M. Brown, J. L. Culhane, H. Hara, T. Watanabe, P. R. Young, and H. E. Mason</i>	L109
$\beta$ -PLANE MAGNETOHYDRODYNAMIC TURBULENCE IN THE SOLAR TACHOCLINE <i>Steven M. Tobias, Patrick H. Diamond, and David W. Hughes</i>	L113
INSTRUCTIONS TO AUTHORS OF LETTERS, AND ADDITIONAL USEFUL INFORMATION	<i>Inside Back Cover</i>
INSTRUCTIONS FOR ELECTRONIC MANUSCRIPT SUBMISSION	<i>Back Cover</i>

2007 OCTOBER 1, NUMBER 2

	Page
FORMATION OF MASSIVE PRIMORDIAL STARS IN A REIONIZED GAS <i>Naoki Yoshida, Kazuyuki Omukai, and Lars Hernquist</i>	L117
THE HOST GALAXY OF GRB 060505: HOST ISM PROPERTIES ⑤ <i>Emily M. Levesque and Lisa J. Kewley</i>	L121
A NEW CONSTRAINT ON THE ESCAPE FRACTION IN DISTANT GALAXIES USING $\gamma$ -RAY BURST AFTERGLOW SPECTROSCOPY ⑤ <i>Hsiao-Wen Chen, Jason X. Prochaska, and Nickolay Y. Gnedin</i>	L125
FURTHER EVIDENCE THAT THE REDSHIFTS OF AGN GALAXIES MAY CONTAIN INTRINSIC COMPONENTS <i>M. B. Bell</i>	L129
RETAINING BLACK HOLES WITH VERY LARGE RECOIL VELOCITIES ⑤ <i>Jeremy D. Schnittman</i>	L133
QUANTIFYING RESONANT STRUCTURE IN NGC 6946 FROM TWO-DIMENSIONAL KINEMATICS ⑤ <i>Kambiz Fathi, Silvia Toonen, Jesús Falcón-Barroso, John E. Beckman, Olivier Hernandez, Olivier Daigle, Claude Carignan, and Tim de Zeeuw</i>	L137
ON THE METALLICITY DEPENDENCE OF THE 24 $\mu$ m LUMINOSITY AS A STAR FORMATION TRACER <i>M. Relaño, U. Lisenfeld, P. G. Pérez-González, J. M. Vilchez, and E. Battaner</i>	L141

## CONTENTS

v

THE YOUNG CLUSTER POPULATION OF M82 REGION B <span style="font-size: small;">(E)</span>	L145
<i>L. J. Smith, N. Bastian, I. S. Konstantopoulos, J. S. Gallagher III, M. Gieles, R. de Grijs, S. S. Larsen, R. W. O'Connell, and M. S. Westmoquette</i>	
I Zw 18 REVISITED WITH HST ACS AND CEPHEIDS: NEW DISTANCE AND AGE	L151
<i>A. Aloisi, G. Clementini, M. Tosi, F. Annibali, R. Contreras, G. Fiorentino, J. Mack, M. Marconi, I. Musella, A. Saha, M. Sirianni, and R. P. van der Marel</i>	
THE STRUCTURE AND THE DISTANCE OF COLLINDER 121 FROM HIPPARCOS AND PHOTOMETRY: RESOLVING THE DISCREPANCY	L155
<i>Nadia Kaltcheva and Valeri Makarov</i>	
<i>r</i> -PROCESS NUCLEOSYNTHESIS IN SHOCKED SURFACE LAYERS OF O-Ne-Mg CORES	L159
<i>H. Ning, Y.-Z. Qian, and B. S. Meyer</i>	
SPECTACULAR TRAILING STREAMERS NEAR LMC X-1: THE FIRST EVIDENCE OF A JET?	L163
<i>Ryan Cooke, Zdenka Kuncic, Rob Sharp, and Joss Bland-Hawthorn</i>	
LARGE-SCALE <i>B</i> -FIELD IN STATIONARY ACCRETION DISKS	L167
<i>G. S. Bisnovatyi-Kogan and R. V. E. Lovelace</i>	
GIANT METREWAVE RADIO TELESCOPE OBSERVATIONS OF THE 2006 OUTBURST OF THE NOVA RS OPHIUCHI: FIRST DETECTION OF EMISSION AT RADIO FREQUENCIES <1.4 GHz <span style="font-size: small;">(E)</span>	L171
<i>N. G. Kantharia, G. C. Anupama, T. P. Prabhu, S. Ramya, M. F. Bode, S. P. S. Eyres, and T. J. O'Brien</i>	
MAGNETIC INTENSIFICATION OF THE Li I $\lambda$ 6708 LINE AND THE ABUNDANCE AND AGE SPREAD IN YOUNG COOL STARS	L175
<i>F. Leone</i>	
A DENSE MICROCLUSTER OF CLASS 0 PROTOSTARS IN NGC 2264 D-MM1	L179
<i>Paula S. Teixeira, Luis A. Zapata, and Charles J. Lada</i>	
AMMONIA IMAGING OF THE DISKS IN THE NGC 1333 IRAS 4A PROTOBINARY SYSTEM	L183
<i>Minho Choi, Ken'ichi Tatematsu, Geumsook Park, and Miju Kang</i>	
AN EVOLVED DISK SURROUNDING THE MASSIVE MAIN-SEQUENCE STAR MWC 297?	L187
<i>P. Manoj, Paul T. P. Ho, Nagayoshi Ohashi, Qizhou Zhang, Tatsuhiko Hasegawa, Huei-Ru Chen, H. C. Bhatt, and N. M. Ashok</i>	
THERMAL EMISSION FROM TRANSITING VERY HOT JUPITERS: PROSPECTS FOR GROUND-BASED DETECTION AT OPTICAL WAVELENGTHS	L191
<i>Mercedes López-Morales and Sara Seager</i>	
TrES-4: A TRANSITING HOT JUPITER OF VERY LOW DENSITY	L195
<i>Georgi Mandushev, Francis T. O'Donovan, David Charbonneau, Guillermo Torres, David W. Latham, Gáspár Á. Bakos, Edward W. Dunham, Alessandro Sozzetti, José M. Fernández, Gilbert A. Esquerdo, Mark E. Everett, Timothy M. Brown, Markus Rabus, Juan A. Belmonte, and Lynne A. Hillenbrand</i>	
SPITZER TRANSIT AND SECONDARY ECLIPSE PHOTOMETRY OF GJ 436b	L199
<i>Drake Deming, Joseph Harrington, Gregory Laughlin, Sara Seager, Sarah B. Navarro, William C. Bowman, and Karen Horning</i>	
DETECTION OF AN EXTENDED NEAR-SUN NEUTRAL HELIUM CLOUD FROM GROUND-BASED INFRARED CORONAGRAPH SPECTROPOLARIMETRY	L203
<i>J. R. Kuhn, J. Arnaud, S. Jaegli, H. Lin, and E. Moise</i>	
THE ORIGIN OF SOLAR ACTIVITY IN THE TACHOCLINE <span style="font-size: small;">(E)</span>	L207
<i>Kyle P. Parfrey and Kristen Menou</i>	
ERRATUM: "DISCOVERY OF A SECOND MILLISECOND ACCRETING PULSAR: XTE J1751-305" (ApJ, 575, L21 [2002])	L211
<i>C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in 't Zand, and F. E. Marshall</i>	
INSTRUCTIONS TO AUTHORS OF LETTERS, AND ADDITIONAL USEFUL INFORMATION	<i>Inside Back Cover</i>
INSTRUCTIONS FOR ELECTRONIC MANUSCRIPT SUBMISSION	<i>Back Cover</i>

